

REMARKS

35 U.S.C. §102 Rejections

Claims 1, 3 and 15 – 18 are rejected under 35 U.S.C. §102(e) as being anticipated by Li, Hehching Harry (US 6023778 A). Applicants have reviewed the Li reference and the present Office Action response to previous arguments, and for the following rationale Applicants continue to respectfully submit that the present invention is not anticipated nor rendered obvious by the Li reference.

Applicants respectfully contend that even if the present Office Action assertion is correct that the OR gate 94 of Li is a scan test enable trigger sensing component and the master-slave “flip flops 91” are a staging component, the Li reference does not teach the present claimed invention. Applicants respectfully contend that Li does not teach that the output of OR gate 94 provides any notification to “flip flops 91” [Fig 4A does not show any connection of the OR gate 94 output to “flip flops 91”] and does not teach the “flip flops 91” doing anything based upon the output of OR gate 94. Applicants respectfully assert that “flip flops 91” of Li can not do anything based upon notification from OR gate 94 because OR gate 94 does not provide any information to “flip flops 91”.

Applicants also respectfully disagree with the apparent assertion in the present Office Action that the present application circuits and scan test enable signal is the same as the Li circuits and scan mode signal. The present Office Action seems to indicate that

the scan mode signal of Li is an assertion or deassertion notification ("the scan mode signal is an assertion or deassertion notification" indicated in second paragraph of present Office Action) and the scan mode signal is a trigger signal ("the scan mode signal at the pad is a trigger signal" present Office Action) and that the scan mode signal assertion or deassertion is based upon a notification from itself (" shows that either an asserted or deasserted scan test enable signal issued to various MUXs based upon the assertion or deassertion notification" AKA scan mode signal according to the present Office Action). Applicants respectfully disagree but even if these Office Action assertions are true, Applicants respectfully point out that this furthers the argument that the present invention is not taught by Li because a present application scan mode signal is not asserted or deasserted based upon itself but rather on an assertion or deassertion notification when logical values of a trigger signal captured at multiple stages provide an indication to begin a scan test enable signal assertion or deassertion.

Applicants respectfully assert that the present application distinguishes between a trigger signal and a scan test enable signal. Applicants respectfully assert that Li does not teach a distinction between a scan test mode signal at the input of delay circuit 53 and the output of delay circuit 54. "The scan mode signal is first sent to the delay circuit, which then distributes the scan mode signal to mux scan flip flops" [Abstract]. Applicants respectfully assert that the Li scan mode signal is already in existence in an asserted or deasserted state and not asserted or deasserted based upon anything the Li delay circuit teaches.

Applicants respectfully assert that to the extent the Li reference may teach that the use of scan test mode signal for enabling a scan test it does not teach a trigger signal providing an indication to begin a scan test enable signal assertion. Applicants respectfully assert that the Li reference teaches away from the present invention by indicating the scan test enable signal is already in existence [Col. 3 lines 40 to 41; Col. 3 lines 58 to 59; and Col. 4 lines 37 to 30] and asserted or deasserted when received by the delay circuit 51 [Col. 4 lines 53 to 55; Col.4 lines 65 to 67; and Col. 5 lines 19 to 21]. Applicant's respectfully assert that the Li reference does not teach logical values captured at multiple stages providing an indication to begin a scan test enable signal assertion. The scan mode signal value of one on the input 53 indicates an active scan mode signal (it is already asserted at input 53, it does not begin by capturing logic values as indicated in the present application) and by the definition of an OR function, whenever the input 53 is a value of one, the output 55 is active almost instantaneously regardless of the clock activity [Col. 4 lines 53 to 57 and Figure 4A].

The present Office Action seems to indicate that scan mode pads are normally used for scan testing hence are normal functional pads. Applicants respectfully assert that the present application indicates normal functions and test mode functions are not the same [Page 9 lines 1 though 4]. The present application even indicates that it is detrimental to go into test mode during normal operations [Page 3 lines 13 to 17]. Applicants also respectfully assert that the Li reference also acknowledges there is a difference between normal functions and test functions [Col. 1 lines 24 through 30].

The present Office Action also seems to indicate that a recitation of the intended use of the claimed invention must result in a structural difference. Applicants respectfully assert that there is a structural difference. Applicants respectfully assert that the LI reference teaches a dedicated scan mode pad [figure 3] and tester pin [figure 1]. Applicant's respectfully assert present application indicates this approach uses up valuable resources [Page 4 lines 7 through 13]. There is a structural difference in that the present application does not rely a dedicated pin for a single purpose. The present application indicates a selected pin is utilized during normal operations to communicate functional signals and during testing operations a selected pin is utilized to communicate a signal involved in the assertion and deassertion of a scan test enable signal. The structural difference is that a pin with trigger signal of the present application can be coupled to circuits for normal operations and testing operations and the Li dedicated testing pin is not coupled to circuits for normal operations.

The present Office Action indicates Figure 5 shows that the scan enable signal has both an active and inactive range and hence Li teaches maintaining an active scan mode signal status. Applicants respectfully assert that even if the Li reference teaches maintaining a active scan mode signal status it does not teach maintaining an active scan mod signal status as claimed in the present application. Applicants respectfully assert the present application claim 4 indicates:

... a third stage scan enabling component coupled to said
scan test enable trigger sensing component, said third stage scan
enabling component adapted to maintain an active scan enable

signal status until an stage progression signal permits a contrary indication to be received by said third stage scan enabling component.

Applicants respectfully assert that the Li reference teaches away by indicating the scan mode signal changes without waiting for permission and regardless of any activity from any stage. Applicants respectfully assert that Li teaches between times 211 and 213 a change in the mux scan enable corresponding to a change in the scan mode pad is instantaneous without waiting for any change in the clock signal [Fig. 5].

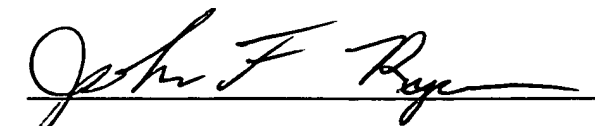
Conclusion

In light of the above remarks, Applicants respectfully request allowance of the remaining Claims. The examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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